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State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-254-57  
Relating to Certification of New Motor Vehicles

HYUNDAI MOTOR COMPANY

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That 1999 model-year Hyundai Motor Company exhaust emission control systems are certified as described below for passenger cars:

Emission Standard Category: Transitional Low-Emission Vehicle (TLEV)

Fuel Type (Certification Fuel): Gasoline (Indolene)

Engine Family: XHYXV02.42EC Displacement: 2.4 Liters (143.5 Cubic Inches)

Exhaust Emission Control Systems & Special Features:

- Three Way Catalytic Converter
- Heated Oxygen Sensors (two)
- Sequential Multiport Fuel Injection
- Warm Up Three Way Catalytic Converter
- Exhaust Gas Recirculation

Vehicle models, transmissions, engine codes and evaporative emission control families are listed on attachments.

The TLEV certification exhaust emission standards for this engine family in grams per mile are:

<u>Miles</u>	<u>Non-Methane Organic Gases</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Formaldehyde</u>	<u>Carbon Monoxide (20°F)</u>
50,000	0.125	3.4	0.4	0.015	10.0
100,000	0.156	4.2	0.6	0.018	n/a

The TLEV certification exhaust emission values for this engine family in grams per mile are:

<u>Miles</u>	<u>Non-Methane Organic Gases</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Formaldehyde</u>	<u>Carbon Monoxide (20°F)</u>
50,000	0.061	0.7	0.1	0.001	4.7
100,000	0.067	0.7	0.1	0.001	n/a

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the aforementioned exhaust emission standards based on its submitted plan to comply with the fleet average NMOG exhaust mass emission requirements as set forth in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That under the submitted NMOG fleet average compliance plan, if the manufacturer incurs a NMOG debit for the aforementioned model year based on the projected NMOG fleet average exceeding the value required by the above-referenced standards and test procedures, all incurred NMOG debits by the manufacturer shall be equalized as required by the standards and test procedures.

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the running loss and useful life standards applicable to 1995 and subsequent model-year vehicles in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles," and the listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" for the aforementioned model year (Title 13, California Code of Regulations, Section 2235).

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the Board's high-altitude requirements and highway emission standards, and with the California Inspection and Maintenance emission standards in place at the time of certification, as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the vehicle manufacturer has demonstrated compliance with the exhaust emission standards at 50 degrees Fahrenheit as stipulated in "California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles."

BE IT FURTHER RESOLVED: That the listed vehicle models also comply with the "California Motor Vehicle Emission Control and Smog Index Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

BE IT FURTHER RESOLVED: That the manufacturer is certifying the listed vehicle models with a partially complying on-board diagnostic system for the aforementioned model year pursuant to Title 13, California Code of Regulations, Section 1968.1(m)(6.2) ("Malfunction and Diagnostic System Requirements--1994 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines").

BE IT FURTHER RESOLVED: That the vehicle manufacturer is certifying the listed vehicle models to the "California Refueling Emission Standards and Test Procedures for 1998 and Subsequent Model Motor Vehicles," Title 13, California Code of Regulations, Section 1978, and the listed vehicle models comply with those standards.

BE IT FURTHER RESOLVED: That for the listed vehicles, the manufacturer has submitted and the Executive Officer hereby approves the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2035 et seq.).

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order and attachment.

Executed at El Monte, California this 23<sup>rd</sup> day of June 1998.



R. B. Summerfield, Chief  
Mobile Source Operations Division

**1999 MODEL-YEAR AIR RESOURCES SUPPLEMENTAL DATA SHEET  
PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES**

Manufacturer : HYUNDAI MOTOR CO. Exh Eng Fam : XHYXV02.42EC Evap Fam : XHYXR0150PEE  
All Eng Codes in Eng Fam : CA X 49S \_\_\_ 50S\_\_\_ AB965 ORVR : YES X NO \_\_\_  
Exh Std : CA Tier-1\_\_ TLEV X LEV\_\_\_ ULEV\_\_\_ ZEV\_\_\_ ; US EPA Tier-1 \_\_\_  
Evap Std : 100K X Useful life with R/L X In-Use Exh Std : Full In Use X Alt In Use \_\_\_  
Veh Class(es) : PC X LDT1\_\_\_ LDT2\_\_\_ MDV1\_\_\_ MDV2\_\_\_ MDV3\_\_\_ MDV4\_\_\_ MDV5\_\_\_  
Single Cert Std for Multi-Class Eng Fam : N/A (specify: N/A, LDT1, MDV1, MDV2, MDV3, MDV4)  
Fuel Type(s) : Dedicated X Flex-Fuel\_\_\_ Dual-Fuel\_\_\_ Bi-Fuel\_\_\_ Gasoline X Diesel\_\_\_  
CNG\_\_\_ LNG\_\_\_ LPG\_\_\_ M85\_\_\_ Other (specify) \_\_\_\_\_  
Emiss Test Fuel(s) : Indo X PH2\_\_\_ CNG\_\_\_ LPG\_\_\_ M85\_\_\_ Other (specify) \_\_\_\_\_  
Diesel : 13 CCR 2282\_\_\_ 40 CFR 86.113-90\_\_\_ 40 CFR 86.113-94\_\_\_  
Evaporative Emission Test Procedure : California \_\_\_ Federal X \_\_\_  
Service Accum : Std AMA X Mod AMA\_\_\_ Mfr ADV\_\_\_ OTHER (SPECIFY) \_\_\_\_\_  
NMOG Test procedure : N/A\_\_\_ Std X Equiv\_\_\_ R/L Test Proc : SHED X Pt Source\_\_\_  
Hybrid : Type A\_\_\_ B\_\_\_ C\_\_\_, APU Cycle (e.g., Otto, Diesel, Turbine) \_\_\_\_\_  
Engine Configuration : I-4 Displacement : 2.4 / \_\_\_ Liters 143.5 / \_\_\_ Cubic Inches  
Valves Per Cylinder : 4 Rated HP : 143 @ 5,500 RPM  
Engine : Front X Mid\_\_\_ Rear\_\_\_ Drive : FWD X RWD\_\_\_ 4WD-FT\_\_\_ 4WD-PT\_\_\_  
Exhaust ECS (e.g., MFI EGR., TC, CAC, : HO2S(2) + WU-TWC+TWC + SFI + OBD II + EGR  
(use abbreviations per SAE J1930 JUN 93 )

Eng. Code (list CA/ 49ST/50ST)	Veh. Models (If Coded see Attachment)	Trans. Type : L-Auto. M-Man.	Equiv. Test Weight	DPA or RLHP	Ign. Sys. (ECM/PCM) part No.	EGR System Part No.	Catalyst Part No.
ACM5-E /CM5-E (CA)	SONATA	M5	3375	6.5	39110-38313 39110-38323	28450- 38210	28530-38750(Frt) 28950-38700(Rr)
ACL4-E /CL4-E (CA)		L4	↑	7.3	39110-38317 39110-38630	↑	↑